

J/ψ Production and Suppression*

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Abstract

In recent years, the J/ψ signal in heavy-ion collisions at the CERN SPS has attracted much attention as a potential quark-gluon plasma signature. This review discusses the prediction of J/ψ suppression and the systematics of this signature as a function of the transverse energy of the collision and the transverse momentum of the J/ψ . Since J/ψ suppression was already present in hadron-nucleus interactions, hadronic models of absorption by nucleons and scattering with co-moving secondaries soon emerged. After a discussion of J/ψ and other related production data in pp , pA , and AB interactions, hadronic suppression models are introduced and compared with the CERN SPS data. Plasma model predictions are also given for CERN SPS collisions as well as for the future RHIC and LHC heavy-ion colliders.

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